

[DOCUMENT NAME] SCOPE OF CLAIM FOR PATENT

1 A mobile device having wireless antennas in a wireless communication network having a plurality of base stations, characterized in including:

5 two or more antennas installed separately at an extent that the base station of which radio wave intensity becomes maximum differs antenna by antenna in a case where the mobile device has stood still in the vicinity of a boundary of wireless areas; and

10 a communication means for simultaneously utilizing said two or more antennas, thereby to simultaneously make communication with a plurality of the base stations.

2 The mobile device according to claim 1, characterized
15 in including the means for:

detecting a transmission/reception state of each antenna; and

performing a hand-over process based upon said transmission/reception state of each of said antennas.

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3 The mobile device according to claim 1, characterized in that said mobile device is a vehicle.

4 The mobile device according to claim 1, characterized
25 in that said mobile device is a train.

5 The mobile device according to claim 1, characterized
in that said mobile device is a ship.

5 6 The mobile device according to claim 1, characterized
in raising a communication reliability by, in a case where
a set of base stations with which communication is
possible via the antenna differ antenna by antenna, making
communication with respective separate base stations.

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7 A mobile device having wireless antennas in a wireless
communication network having a plurality of base stations,
characterized in including:

two or more antennas installed separately at an extent
15 that the base station of which a communication quality
becomes most excellent differs antenna by antenna in a
case where the mobile device has stood still in the
vicinity of a boundary of wireless areas; and

a communication means for simultaneously utilizing
20 said two or more antennas, thereby to simultaneously make
communication with a plurality of the base stations.

8 The mobile device according to claim 7, characterized
in including the means for:

25 detecting a transmission/reception state of each

antenna; and

performing a hand-over process based upon said transmission/reception state of each of said antennas.

5 **9** The mobile device according to claim 7, characterized in that said mobile device is a vehicle.

10 The mobile device according to claim 7, characterized in that said mobile device is a train.

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11 The mobile device according to claim 7, characterized in that said mobile device is a ship.

12 The mobile device according to claim 7, characterized
15 in raising a communication reliability by, in a case where a set of base stations with which communication is possible via the antenna differ antenna by antenna, making communication with respective separate base stations.

20 **13** A mobile device having wireless antennas in a wireless communication network having a plurality of base stations, characterized in including:

two or more antennas installed separated at an extent that the base station of which a communication quality
25 becomes most excellent differs antenna by antenna in a

case where the mobile device has stood still in the vicinity of a boundary of wireless areas;

two or more transmission/reception means mounted responding to each of said antennas; and

5 a communication means for simultaneously utilizing said two or more antennas and said two or more transmission/reception means, thereby to simultaneously make communication with a plurality of the base stations.

10 **14** The mobile device according to claim 13, characterized in including the means for:

detecting a transmission/reception state of each antenna; and

performing a hand-over process based upon said
15 transmission/reception state of each of said antennas.

15 The mobile device according to claim 13, characterized in that said mobile device is a vehicle.

20 **16** The mobile device according to claim 13, characterized in that said mobile device is a train.

17 The mobile device according to claim 13, characterized in that said mobile device is a ship.

18 The mobile device according to claim 13, characterized in raising a communication reliability by, in a case where a set of base stations with which communication is possible via the antenna differ antenna by antenna, making
5 communication with respective separate base stations.

19 A method of arranging wireless interfaces, characterized in including a step of, in order to simultaneously make communication with a plurality of base
10 stations, arranging two or more antennas separately at an extent that the base station of which radio wave intensity becomes maximum differs antenna by antenna in a case where a mobile device has stood still in the vicinity of a boundary of wireless areas.

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20 A method of arranging wireless interfaces, characterized in including the steps of: arranging two or more antennas separately at an extent that the base station of which a communication quality becomes most
20 excellent antenna by antenna in a case where a mobile device has stood still in the vicinity of a boundary of wireless areas; mounting two or more transmission/reception means correspondingly to each antenna; and arranging wireless interfaces so that said
25 two or more antennas and said two or more

transmission/reception means are simultaneously utilized, thereby to simultaneously make communication with a plurality of the base stations.

5 **21** A hand-over method of mobile telecommunications, characterized in including the steps of: detecting a transmission/reception state of two or more antennas mounted separately on a mobile body at an extent that a base station of which radio wave intensity becomes maximum
10 differs antenna by antenna in a case where the mobile body has stood still in the vicinity of a boundary of wireless areas; and performing a hand-over process to the base station of the antenna where the radio wave intensity becomes strong with movement.

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22 A hand-over method of mobile telecommunications, characterized in including the steps of: detecting a transmission/reception state of two or more antennas mounted separately on a mobile body at an extent that a
20 base station of which a communication quality becomes most excellent differs antenna by antenna in a case where the mobile body has stood still in the vicinity of a boundary of wireless areas; and performing a hand-over process to the base station of the antenna where the radio wave
25 intensity becomes strong with movement.